

ABSTRACT OF THE DISCLOSURE

A method of reducing the pattern effect in the CMP process. The method comprises the steps of providing a semiconductor substrate having a patterned dielectric layer, a barrier layer on the patterned dielectric layer, and a conductive layer on the barrier layer; performing a first CMP process to remove part of the conductive layer before the barrier layer is polished, thereby a step height of the conductive layer is reduced; depositing a layer of material substantially the same as the conductive layer on the conductive layer; and performing a second CMP process to expose the dielectric layer. A method of eliminating the dishing phenomena after a CMP process and a CMP rework method are also provided.

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